

# **Fatigue and its associated risk factors: A survey of electronics manufacturing shift workers in Malaysia**

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## **ABSTRACT**

**Background:** Fatigue among shift workers is one of the problems that not only can cause health impairment but also lead to decrement in safety performance. In Malaysia, few studies have been conducted on the prevalence of fatigue and its risk factors among shift workers, especially in the electronics manufacturing industries when compared with other countries.

**Objective:** The purpose of this study is to determine the prevalence of fatigue and to investigate the factors associated with fatigue among shift workers in the electronics manufacturing industry in Malaysia.

**Methods:** A cross-sectional study was conducted using a questionnaire to collect data on socio-demographic, working, and lifestyle factors. Multidimensional Fatigue Inventory (MFI) was used to assess the prevalence of fatigue in five dimensions: general fatigue, mental fatigue, physical fatigue, reduced activity, and reduced motivation. Descriptive analysis was used to demonstrate the characteristics of the study population. Pearson Correlation was conducted to find the relationship between the variables.

**Results:** The findings show the prevalence of fatigue in all dimensions with the highest in general fatigue (54.5%). Significant associations were found between general fatigue and education level; mental fatigue and shift and overtime; reduced activity and shift and exercise; and reduced motivation with age, marital status, and education level.

**Conclusions:** Shift workers of the electronics manufacturing industry in Malaysia are exposed to fatigue and at risk of getting health impairment and affect their safety performance. Intervention programs may be beneficial to reduce fatigue risk and consequences.

**KEYWORDS:** Fatigue; shift work; shift workers; multidimensional fatigue inventory; manufacturing

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